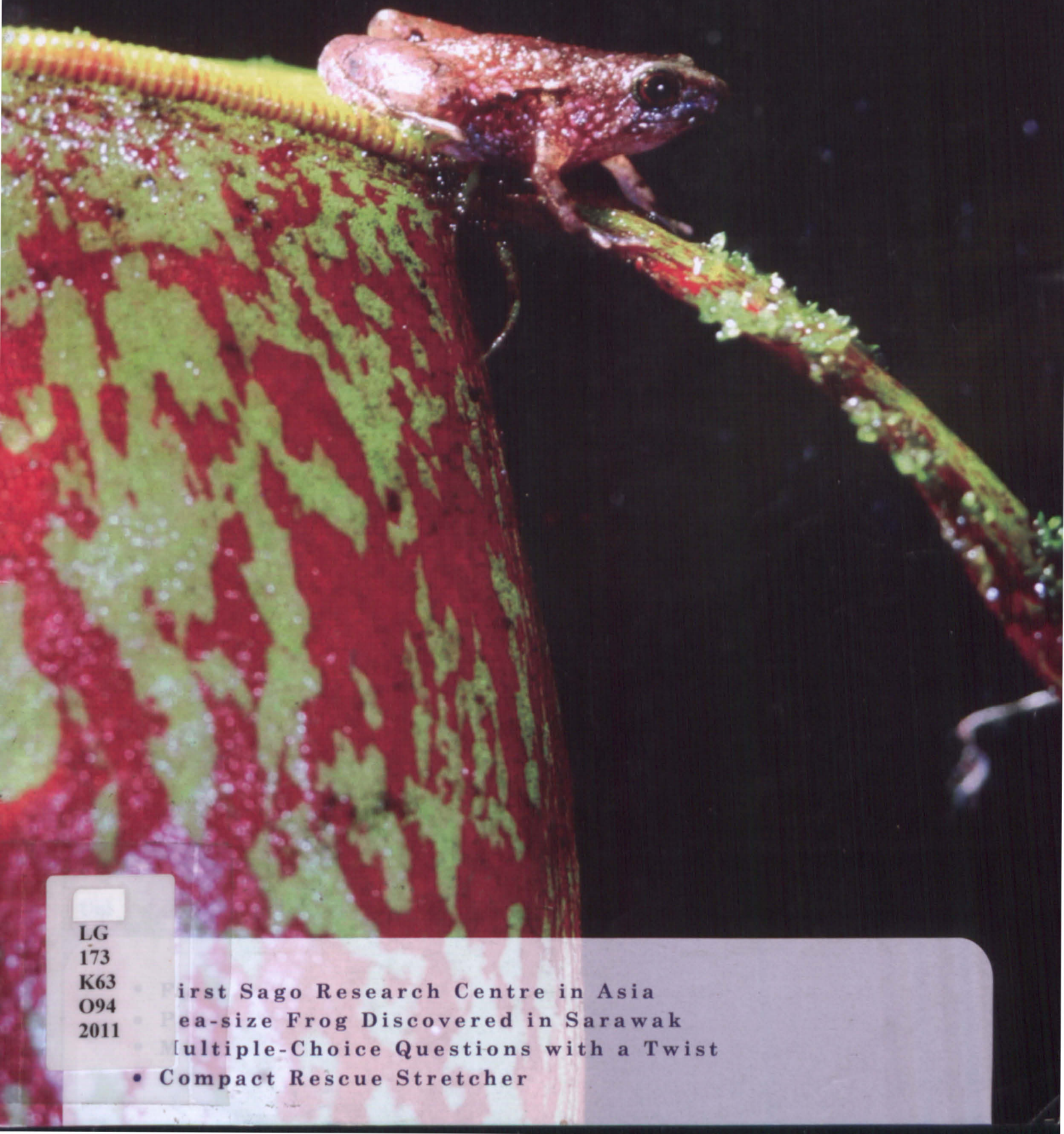
OUTREACH

UNIMAS RESEARCH BULLETIN | Vol.5 No.1 | JANUARY 2011 ISSN : 1985-2053



- irst Sago Research Centre in Asia
- ea-size Frog Discovered in Sarawak
- ultiple-Choice Questions with a Twist
- Compact Rescue Stretcher

Fast Facts on UNIMAS

Date established (incorporated)	**24 December 1992**	
Campus Site	**Kota Samarahan, Sarawak, Malaysia (about 25 km from the city of Kuching, the capital city of Sarawak)**	
Present Vice Chancellor	**Prof Dr Khairuddin Ab Hamid**	
Student Enrolment (Academic Session 2010/2011)	Undergraduate	6,887
	Postgraduate	898
	Total	**7,785**
Full time staff	Academic	663
	Management	131
	Support	1001
	Total	**1,795**

Faculties
Faculty of Applied and Creative Arts (FACA)
Faculty of Cognitive Sciences and Human Development (FCSHD)
Faculty of Computer Science and Information Technology (FCSIT)
Faculty of Economics and Business (FEB)
Faculty of Engineering (FE)
Faculty of Medicine and Health Sciences (FMHS)
Faculty of Resource Science and Technology (FRST)
Faculty of Social Sciences (FSS)

Institutes
Institute of Biodiversity and Environmental Conservation (IBEC)
Institute of East Asian Studies (IEAS)
Institute of Health and Community Medicine (IHCM)
Institute of Social Informatics and Technological Innovations (ISITI)
Institute of Design and INNOVATION (InDI)

Centres
Centre for Language Studies (CLS)
Centre for Academic Information Services (CAIS)
Centre for Student Development (CSD)
Centre for Technology Transfer and Consultancy (CTTC)
Centre for Information and Communication Technology Services (CICTS)
Centre for Applied Learning and Multimedia (CALM)
Research and Innovation Management Centre (RIMC)
Centre for Graduate Studies (CGS)

Centres of Excellence
Malaria Research Centre
Centre for Water Research
Centre for Rural Informatics
Centre for Image Analysis and Spatial Technologies
Centre for Renewable Energy
Centre for Semantic Technology and Augmented Reality

International Linkages
53 International Partners Worldwide (Active)

Centre for Academic Information Services

Volume of Books	121,951
Sets of Media Materials	8,036
Journal Titles (Print and Electronic)	18,458

Cover Design
One of the world's tiniest frog perched on the mouth of a pitcher plant.

Published by the Publication Division, UNIMAS.

ISSN 1985-2053

In this Issue

The second half of 2010 was a rewarding one for UNIMAS on the research front. Our research team proved to be winners at the World Exhibition on Innovation, Research and New Technologies in Brussels, Belgium on 18-20 November 2010; winning five gold medals, four silvers and two special awards from a total of nine products that we submitted.

At the home front, the discovery of one of the world's smallest frog created waves across the globe. No bigger than a pea, the adult frog can easily be mistaken for the common juvenile frog. And in UNIMAS, the Centre of Excellence for Sago Research was established, the first such research centre in this region. Along with the centre, is the establishment of a pilot plant for producing biofuel from sago waste at UNIMAS. The 1,000L pilot-plant is the first step to the commercialisation of bioethanol from sago.

Some of the award winning creations in Brussel is highlighted in the Product and Technology Transfer section of this issue. In the Research and Consultancy Group, we are proud to introduce our Centre of Excellence for Image Analysis and Spatial Technologies and some of the projects which they have developed since their establishment.

2010 has been a good year and I hope 2011 would bring more exciting challenges and results in the research front.

Happy New Year!

Prof Dr Peter Songan

TABLE OF CONTENTS

RESEARCH NEWS

In Honour of ICT Initiatives

Prof Datuk Dr Khairuddin Ab Hamid, the Vice Chancellor of UNIMAS was bestowed the Limkokwing Honorary Doctorate for Leadership in Talent Development during the university's 2010 graduation ceremony. The award was in recognition for his vast contribution in the field of Information and Communication Technologies (ICT) and his distinctive work in building Malaysia's strength in skilled human capital. He is the brain behind the award winning e-Bario initiative, a national project to bridge the digital divide that was selected for the Prime Minister's Information Technology Award (Socio-economic sector) in 2003. The initiative also won him international accolades from countries such as the Taiwan, USA and Australia. The project is currently being replicated in various sites in Malaysia.

First Sago Research Centre in Asia

The first sago research centre has been set up in UNIMAS. The Centre of Excellence for Sago Research (CoESAR), was officiated by the Minister of Housing and Urban Development, Datuk Amar Abang Haji Abdul Rahman Johari Tun Abang Haji Openg, on 5 August 2010. CoESAR draws from various funding agencies, including Techno-Fund, IRPA and Science Fund from the Ministry of Science, Technology and Innovation, Malaysia, as well as the Special Innovation Fund from the New Energy Development Organisation (NEDO).

UNIMAS Artwork in USM

Twenty of UNIMAS best artwork were displayed at the Muzium dan Galeri Tuanku Fauziah (MGTF) at Universiti Sains Malaysia (USM). The exhibition was held for a month, beginning 10 July 2010, and was aim at strengthening and promoting contemporary art in Malaysia.

UNIMAS Wins Big in Brussels

Universiti Malaysia Sarawak (UNIMAS) won five gold medals and two special awards through an entry of nine innovation products at the recent World Exhibition on Innovation, Research and New Technologies (INNOVA 2010) in Brussels, Belgium. The other four showcased products managed to grab one silver medal each. About 500 researchers from all over the world participated in the exhibition which was held from 18-20 November 2010 in Brussels, Belgium.

Distinguished Herpetologist Lecture Series

Congratulations to Prof Dr Indraneil Das of the Institute of Biodiversity and Environmental Conservation who was designated Distinguished Herpetologist 2010 by the the Board of Trustees of the Herpetologists' League. This recognition is bestowed to an individual based on his or her contributions to advancing scientific and public understanding of herpetology through research, teaching, and service. Prof Indraneil presented a lecture on "Perceptions, use and conservation of amphibians by indigenous people worldwide" at the meeting of Ichthyologists and Herpetologists at Providence, Rhode Island, USA, 2010.

Electrification of Remote Areas in Sarawak

The Japanese Government awarded a RM174,870.14 grant to the Centre of Excellence for Rural Informatics (CoERI) for the implementation of solar energy electrification projects in the remote areas of Sarawak. It is hoped that this would help to improve the living standards of the community in Ba'Kelalan.

RESEARCH HIGHLIGHTS

Pea-sized Frog Discovered in Sarawak

Researcher: Prof Dr Indraneil Das

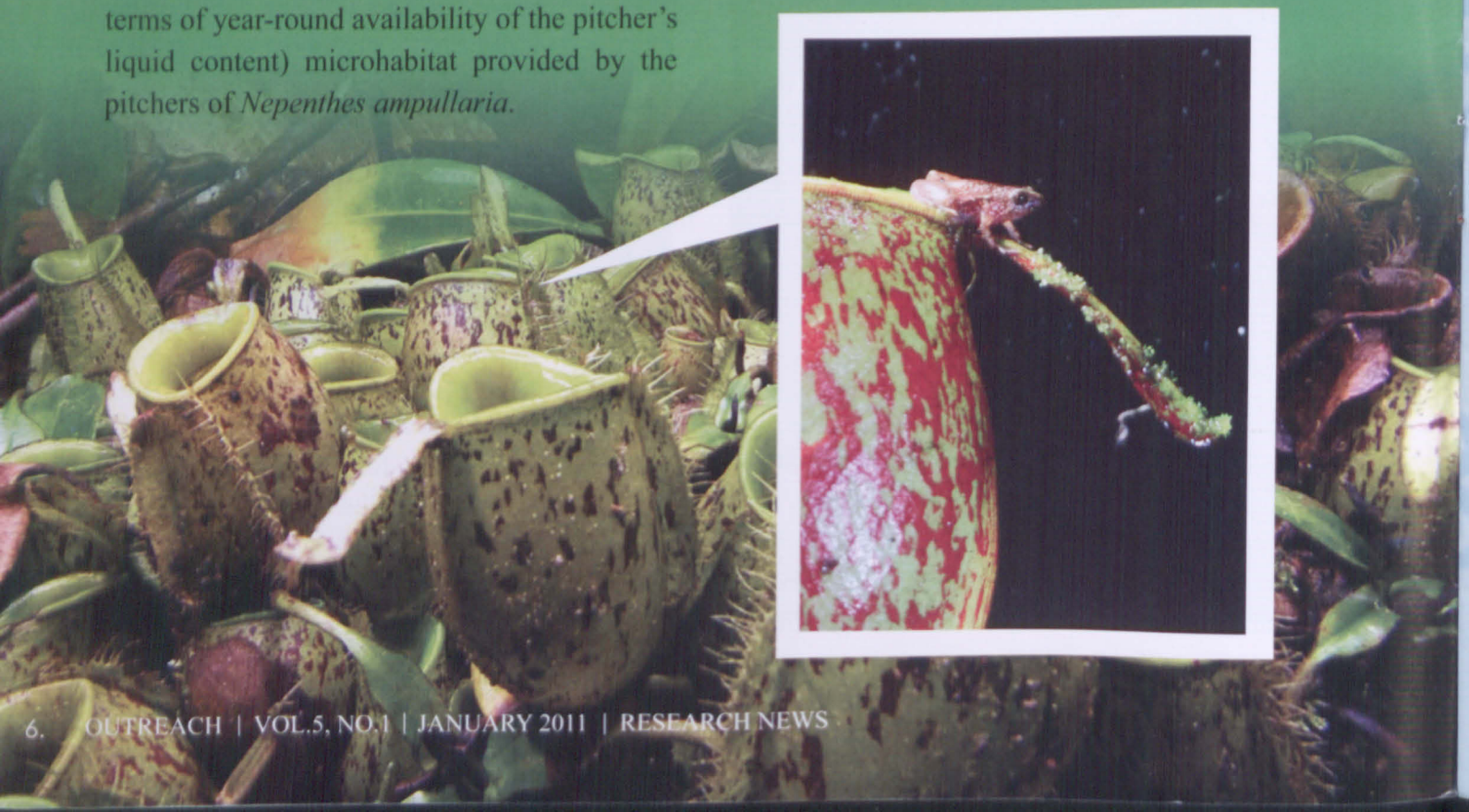
One of the world's smallest frogs has been discovered in the Matang Range, Sarawak. It belongs to a species of microhylid frog of the genus *Microhyla*. This new species is discovered living and breeding in the pitcher plants, *Nepenthes ampullaria*. To date, it is the smallest frog discovered in the eastern Hemisphere, and is one of the world's tiniest.

The observed adult males are the size of a pea. The frog's eggs were found deposited on the sides of mature pitcher plants. Larval metarmophosis was observed to occur within two weeks before a mature adult form emerges. At this stage it is just about the size of a tiny green bean.

The larva gets its nourishment from the pitcher plants by exploiting the relatively stable (in terms of year-round availability of the pitcher's liquid content) microhabitat provided by the pitchers of *Nepenthes ampullaria*.

Given the small size of this new species, especially of the males, collection of specimens proved to be a challenge, although male choruses are heard all times of the year (except on the driest of nights). The frogs were collected within a section of *kerangas* forest where the undergrowth has patchy but dense aggregations of the pitcher plant, *Nepenthes ampullaria*.

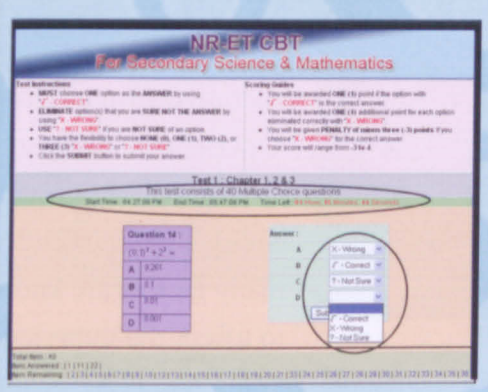
Nepenthes ampullaria is one of the smallest species within the genus, with pitchers up to 10cm high and 7cm wide. Furthermore, it is somewhat unusual amongst other *Nepenthes* in having mostly lower pitchers, a diet comprising primarily of rotting organic matter and consequently, are found growing under canopy.



Multiple-Choice Questions with a Twist

Researchers: Dr Lau Sie Hoe, Assoc Prof Dr Hong Kian Sam, Dr Hasbee Bin Hj Usop, Dr Paul Lau Ngee Kiong

Multiple-choice questions are commonly used in educational assessment from primary schools up to tertiary institutions. Number Right (NR) method is the conventional method of scoring multiple-choice items where students only pick one option as the answer. Although commonly used, it has been criticized for failure to credit partial knowledge and guessing. There is no information on how students think with respect to other options.



Example of a screen shot of the instructions to the students using the Computer-Based Test (CBT) with Multiple-Choice Questions (MCQ) which requires students to use the NRET procedures.

Thus, NR method is a very coarse measuring tool which lump students' knowledge into just correct or incorrect with minimal impact on Assessment for Learning and Assessment as Learning. This fails to capture the ultimate goal of testing, which is to accurately estimate a person's ability and to use the test results to improve learning.

As an alternative, the Number Right Elimination Testing (NRET) scoring procedures is proposed. The NRET method is a hybrid of two existing scoring method; Number Right (NR) and Elimination Testing (ET). Students are required to eliminate option(s), which is/ are incorrect and based on the remaining option(s), choose one as the answer. One point is awarded for each wrong option eliminated (identify the wrong options as incorrect). However, a penalty of -3 is given if the correct answer is eliminated (identify the answer as incorrect). One additional point is awarded if the answer chosen is correct.

Through the NRET method, rich diagnostic information on how students think regarding each option is captured. As a result, students' knowledge state can be classified into five different levels; full misconception, partial misconception, absence of knowledge, partial knowledge, and full knowledge. In addition, NRET method is also able to distinguish lucky guesses from answers based on knowledge. Guessing is also discouraged by the introduction of penalty for eliminating the correct answer.

Studies conducted on this NRET method found that guessing is minimal and the method is able to credit partial knowledge and diagnose misconceptions. Besides, NRET scores have higher reliability and lower standard error of measurement (SEM) as compared to NR scores. The NRET method can be used to replace the conventional NR method as it is easy to implement, and does not involve complicated theoretical models. Furthermore, it does not require any changes in the structure of multiple-choice items and advanced preparation or special equipment.

Pain Management in Public Hospitals in Sarawak, Malaysia

Researchers : Dr Zabidah Putit, Jane Buncuan, Saloma Pawi, Aieshah Zainuddin

Nurses hold significant responsibilities on pain management post operatively. Routinely, analgesics are prescribed on a 'when necessary' basis as acute pain is associated with tissue injury. Nurses need to assess the intensity of pain and evaluate the effectiveness of analgesics that gives temporary relief. Equally fundamental to address in pain management are the human (nurses) touch and its effectiveness, taking into account the nurses' application of knowledge, competency and attitudes.

Inadequate communication about pain can result in increased pain in patients. Such acute pain often results in patient restricting their movement, disturbs rest and sleep, and causing emotional disturbances. This may lead to irritability, anxiousness and depression. Such acute post surgery pain may also affect various body systems.

A study of postoperative pain management is currently conducted in public hospitals in Sarawak, Malaysia. It aims to enable healthcare professionals to review current best practices with a view to introduce practice changes which may lead to improvements in patient care. This study adopted a mixed method of both qualitative and quantitative approach.

In Malaysia, there is no study that has been published on either post operative pain or pain management. It seems that the fundamental issues of how best to measure and manage pain post operatively have yet to be resolved in spite of the recognition of the importance of effective pain management. Related studies were carried out in other parts of the world identifying poor clinical practice in the assessment and management of post operative pain.

Response to post operative pain might be experienced differently by different culture and background. In addition, many factors are known to affect the experience of pain including gender, age, previous experience of post operative pain, the meaning of pain has to the individual experiencing it, tempered with a range of psychological factors. Post operative pain management will be able to provide better pain management through systematic assessment of pain intensity and pain relief, the provision of an effective management of pain, and strategize nursing care based on patients report.

Pre-Commercialisation of Bioethanol from Sago

Researcher: Prof Dr Kopli Bujang, Assoc Prof Dr Civilo Nolasco Hipolito, Dayang Salwani bt Awang Aldeni

Biofuel, either bioethanol or biodiesel, is seen as a promising alternative fuel of the future. The use of food sources as energy substrate will inadvertently draw criticism due the ethics of the process. As such, the design of the pilot-plant was tailored to use sago solid waste, particularly hydrolysed sago fibres (or hampas) as the main feedstock in the future. Current development has shown promising results of about 50-60% recovery of sugars from such waste.

This project is fully funded by the Techno-Fund from Ministry of Science, Technology and Innovation (MOSTI) of Malaysia. The aim is to produce ethanol as biofuel from sago, starting from sago starch and later focusing on sago fibre, obtained by filtration of sago effluent. The main purpose of this project is to produce bioethanol as an additive for fuel at 18% or E18, which does not necessitate modifications of car engines or carburettors.

Such an approach has been implemented in other parts of Asia like Thailand, Philippines and Japan although using different substrate for bioethanol. In UNIMAS, the plan is to replace petrol-driven UNIMAS cars with E18. The success of this project will be the basis for future marketing.

A 1,000L pilot-plant, was designed and developed as a turn-key project, complete with facilities for hydrolysis of starch and cellulose into sugars. It includes a fully automatic fermentation process and downstream processing for distillation and dehydration of ethanol. Water generated from distillation will be utilised as a culture medium for petro-algae and also recycled for use in starch hydrolysis.

Future plan includes the use of sago effluent for culture of petro-algae used in the production of biodiesel. The petrol algae is fed with carbon dioxide gas released from the pilot-plant. Apart from bioethanol, the pilot-plant can also produce lactic acid from sago starch, an expensive commodity for pharmaceutical industries.

PRODUCT & TECHNOLOGY TRANSFER

Nano Membrane for Juice Extraction

Researcher: M Shahidul Islam

Nano membrane, a form of nano process technology (NPT), is used to produce concentrates from different types of organic and inorganic liquids. This technology is an alternative to the thermal process and has several advantages such as energy saving and the quality of its output. The separation ratio of NPT concentrate to feed is found to be more than three.

Laboratory scale nano membrane plate is used to concentrate clarified pineapple juice. The processing operations are accelerated by using a gear pump to create a feed pressure of 30-35 bar. The concentration factors of this process were 2.8 and 3.2 at the operating pressure of 30 and 35 bar respectively.

The juice obtained from this process is found to be equivalent to the standard flavor. The study demonstrates that NPT is a feasible solution to produce concentrated pineapple juice without compromising the flavour and nutritional value of the juice.

Compact Rescue Stretcher

Researcher: Assoc Prof Dr Khairul Aidil Azlin

This product is an emergency foldable stretcher made from canvas material with a fire retardant layer for use in emergency response and disaster situations. This stretcher is also suitable for down loading of patient from a five-storey building via the staircase. The stretcher weighs about 2 kg which is 60% less than the conventional stretcher. This product can bear a load of up to 220 kg.

This product is configured to be carried by two or four people to reduce the burden of weight. During an emergency, the stretcher is unfolded and broom/

mop sticks can be used as handles. This design comes with a first aid kit and a fitted blanket.

However, this stretcher is not suitable for people with neck and spine injuries. Graphic instructions are printed on the stretcher with glow-in-dark dye to assist users. The target markets are occupants of high rise buildings, housing developers, construction-related insurance companies and organisations such as the Ministry of Health, Ministry of Defence, Red Crescent and United Nations Relief NGOs.

ARUT Mobile Version1.0

Researcher: Dr Edmund Ng Giap Weng

Taking the use of moblie phones to the next level, the Augmented Reality Utility Toolkit (ARUT) Mobile Version 1.0 which was initiated by Dr Edmund Ng Giap Weng, from the Centre of Semantic Technology and Augmented Reality, offers a fully-integrated Mobile Augmented Reality System. The system allows its 3D animation contents to be visualized within a real/virtual live video on a mobile phone's built-in camera, presenting virtual highlights which are superimposed on an actual real-life image. This invention was awarded a gold medal and Special Award under the Radio-Television-Communications Category at the World Exhibition on Innovation Research and New Technologies in Brussels, Belgium on 18-20 November 2010.

NETWORKING

MoU on Green Technology

UNIMAS, Pansar eQo Technology Sdn Bhd and Bellwether Agriculture Pte Ltd of Australia are pursuing new technology to tackle oil palm waste. A memorandum of understanding (MoU) was signed between the three parties at UNIMAS on 5 August 2010. Representing UNIMAS in the development of the new technology was the Centre of Excellence for Water Research. When fully operational, the technology will be able to clean palm oil waste and generate new products in the form of biogass, organic fertiliser and clean water. Under the MoU, a pilot plant costing some RM7 million will be built at UNIMAS campus to process about 3,000 litres of palm oil mill effluent (POME) and fresh fruit brunches (FFB) per day. Under the pilot project, UNIMAS researchers are to develop a system that works best for POME and FFB as Bellwether's technology has not been tested here yet. It is hope that the Bellwether's technology would be able to provide a solution to the current problems facing mill waste discharge in Sarawak.

MoU between UNIMAS and JAIST

An MoU between UNIMAS and Japan Advanced Institute of Science and Technology (JAIST), was signed on 9 August 2010. The MoU is an extension of the first academic exchange conducted between UNIMAS and JAIST on 26 May 2010. UNIMAS, is currently the only university in this region that has an MoU with JAIST. Under the MoU, UNIMAS will send two PhD candidates to JAIST. The candidates will be selected from the Faculty of Computer Science and Information Technology, Faculty of Engineering and the Faculty of Cognitive Science and Human Development.

UNIMAS and WHO on Malaria

A two-day informal consultation on the public health implications of malaria in humans due to *Plasmodium knowlesi* was held at UNIMAS from 22-24 February 2011. The informal meeting was attended by experts from around the region, as well as WHO experts on malaria from the western Pacific regional office. Among others, the gathering was initiated to bring forward pioneering work on knowlesi malaria by researchers at UNIMAS, as well as other research in the Southeast Asian region. The informal meeting which included policy makers hoped to make recommendations regarding diagnosis, case management, prevention and control of knowlesi malaria in humans.

STAKEHOLDER SPEAKS

A Full Fledged University in Sarawak

Datuk Hj Talip Zulpilip

The news about the establishment of a full-fledged university in Sarawak was well received. Overwhelmingly so, if I might add, on recollecting the mood at the time. When the late Tan Sri Dr. Sulaiman Hj. Daud, the then Minister of Education made the announcement, the affable gentlemen gained further respect of many Sarawakians. He deserved that. It has been many years that Sarawakians have been asking for a full-fledged university in Sarawak.

The desire to set up a university in Sarawak should not be viewed as mere parochialism; far from it. Many Sarawakians believe that a Sarawak-based university would be good for national integration. In Sarawak the various races mix very well – be it at school, social functions and so on. The arrival of students and academic staff from Sabah and Semenanjung, mixing with students and academics from Sarawak, would be useful in strengthening national integration. Without being overly smug, when polarisation in universities was raised, no polarisation was reported on Sarawak's campuses. We have shown the way. Keep it up. A strong sense of integration among students strengthens the country and augurs well for the future.

There are many views on the value of university education. Many academic idealists object to the notion that university education is mere 'meal ticket'; it is more than that. Agreed. However, we should not overlook parental or societal expectation and that of the students themselves. It might differ somewhat from that of the ivory tower perspective.

Taking into account societal and parental expectation and aspiration of students, institutions of higher learning should tailor themselves appropriately. First of all, it must have programmes that develop the skill and competency of students. Also, a developing country does not have inexhaustible resources; so the emphasis should be to concentrate on fields that the nation and the employment market require. Disregarding this simple notion is doing injustice to the students. Our universities should also produce students with practical competency. Such capability would put our students in good stead when looking for jobs and is useful in developing the much needed human capital in the country.

The employment or unemployment of graduates should be a good guide to whether the content of each field should be expanded, modified or phased out. This shall be based on the employability of the students. It is a futile exercise to produce more students where earlier batches have high rate of unemployed graduates. Here, I believe universities should be vigilant and not succumb to external pressure.

Are our universities producing graduates competent in the English language to compete favorably in the increasingly globalised world? Advocating for competency in another language is not unpatriotic, as extremists may want to label it. We exist in a globalised world. We compete for investment and jobs, especially high paying jobs, not with fellow Malaysian but with people from all over the world. The current language of international commerce, industry, technology and communication is English. Those who are competent in the language naturally have an advantage. When the Japanese economy was booming, learning Japanese was pursued by Westerners to earn good jobs. Similarly, good command of Arabic was desirable to land high paying jobs when the oil producing Arab countries needed extra engineers, technicians, lawyers, doctors, nurses, accountants, planners and so on.

When UNIMAS was announced, I was the Permanent Secretary at the Ministry of Industrial Development, which held the watching brief on Education. I had fond memories of working closely with the founding V.C Prof Dato' Zawawi, D.V.C Prof Ghazali and the Registrar, Dato Azmi Junit. Our first task was to identify the site. Our picture poring over the map actually appeared on the front page of the New Straits Times when we discussed the site. Over the years I have attended a number of convocations and delivered a few lectures at UNIMAS. My hope is simple – That UNIMAS would become one of the top universities in the country and the world.

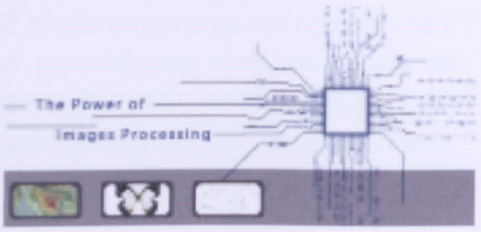
RESEARCH & CONSULTATION GROUP

Centre of Excellence for Image Analysis and Spatial Technologies (IMAST)

IMAST was founded by a group of utility industry IT experts who saw an opportunity to deliver better quality and more flexible solutions to the utility vertical market. It is involved in the business of creating opportunities and improving lives in emerging markets.

IMAST aims to promote research and consultation activities which specialises in Image Processing and Spatial Technologies. It also focuses on developing reliable and robust software products with high business values to meet its clients' business objectives. IMAST consultants and developers are professionally trained to meet clients' needs.

Among the projects at IMAST is the Computerised Automative Technology Reconfiguration System for Mass Customization (CATER), which is an international collaborative project involving some of the biggest names in the automotive industry. Another project is the Central Road Management & Information System (CRMIS), a collaborative effort with the local industry to develop and implement a GIS based Centre for Road Management and Monitoring System (CRMIS) by applying spatial knowledge and technology. For the agricultural industry, the Agriculture Support System and Field Tools (ASSAT), provides a monitoring tool for oil palm tree crown delineation and enumeration using Ikonos satellite images.



Centralised Vehicle Monitoring Management System

Centralised Vehicle Monitoring Management System (CVMMS) is a tool developed by IMAST that can provide state governments with modules designed to simplify their vehicle management problems. It aims to provide the ability to track multi-departmental vehicle usage patterns to meet the needs of maintenance and resource allocation. CVMMS combines Geo Positioning Service (GPS) and Global System for Mobile (GSM) network capabilities to provide functionalities such as real-time vehicle location mapping, vehicle routing information, automated alerting and customizable reporting from the tracking databases.

The monitoring and tracking do not require human intervention and works 24 hours a day and 7 days a week. The CVMMS incorporates real-time vehicle tracking, route management, route scheduling, driver identification, real-time live reporting and retrospective reporting will be able to assist in not only driving down the overall maintenance cost but to put all vehicles in effective utilization.

SEMINARS & CONFERENCES

7th International Conference on IT

The International Conference on IT in Asia (CITA) is a regular series of biennial conference to bring together professionals and executives to share and exchange ideas and information pertaining to the roles of ICTs within the prevailing challenges of development faced by the region. This international forum introduced and organized by the Faculty of Computer Science and Information Technology aims to investigate how technology can be adapted to improve local needs as well as to bring technology within reach of the communities. The theme for CITA's 7th run is "Emerging Convergences and Singularity of Forms" which will be held on the 12th – 14th July 2011. CITA covers various areas such as data mining, high performance computing, image processing, distributed computing, language technology, wired and wireless technologies. Researchers and industry practitioners in these fields are invited to participate, to share and collaborate research works with experts in this conference.

International Disability Conference

Jointly organsied by the Faculty of Social Sciences and the Research Institute and Social Change of Manchester Metropolitan University, the International Disability Conference was organized on 28 July 2010 at the Hilton Hotel, Kuching. The theme of the conference was "Perspective on Inclusive Development: Embracing Diversity and Creating Disability-sensitive Communitie". The objective of the conference was to engage researchers, policy makers, academics and the disabled to share their opinions and experiences with regard to current issues facing the disabled. A total of 30 papers were presented at the conference by representatives from various associations, and included academics, government officers and policy makers from within and outside of Malaysia.

Learning Science Seminar

A seminar on Learning Science was conducted at the Faculty of Cognitive Sciences and Human Development on 6 December 2010 at the CAIS Auditorium. The theme was *The Science of Learning* aimed at introducing the participants to Learning Sciences, an emerging interdisciplinary field that investigates how people learn through interaction with objects and people in their environment. The keynote speaker at the conference was Prof. Dr. Keith Sawyer, the editor of the Cambridge Handbook of Learning Sciences. The seminar was also a prelude to the soon-to-be-offered Masters Programme in Learning Sciences (coursework) at the Faculty of Cognitive Sciences and Human Development, UNIMAS.

9th Malaysia Genetic Congress

The 9th Malaysia Genetic Congress will be organised by the Faculty of Resource Science and Technology, UNIMAS on 28-30 Sept 2011 at the Pullman Hotel, Kuching, Sarawak. The presentations and deliberations of the Congress will be categorized under three major themes Animal, Plant and Microbial Genetics, Human and Medical Genetics, Genomics and Biotechnology.

Taxonomist and Ecologist Conference

A Taxonomist and Ecologist Conference will be organised by the Faculty of Resource Science and Technology on 19-20 April 2011 at the CAIS Auditorium. The objectives of the conference are to encourage academicians, researchers and post graduate students to present, exchange ideas and share their scientific updates and technological findings in the field of taxonomy and ecology. It also provides a platform for discussion amongst academicians, researchers and postgraduate students in acquiring their experience and ultimately to establish networks amongst them.

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